

## REMARKS

In this response to the Final Office Action dated August 7, 2009, Claims 9-12 remain pending, while Claims 1-8 have been canceled solely as being directed to a non-elected invention.

### Claim 9

The polymer liquid crystal fine particles according to Claim 9 are made of a high polymer liquid crystal compound, which contains liquid crystal mesogens and a cinnamoyl group, and the molecules of the high polymer liquid crystal compound are orientated via application of heat or light or both.

When the polymer liquid crystal fine particles according to the present invention is applied with heat, light, or both, the cinnamoyl groups contained in the polymer liquid crystal molecules are dimerized. Along the dimerized cinnamoyl groups, the mesogens become orientated as well. Moreover, when the polymer liquid crystal fine particles are subsequently heated, the remaining mesogens, which are not orientated yet, become easily mobile, and orientated along the fixed mesogens. *See paragraph [0023] of the specification as originally filed.*

The foregoing composition and property of the claimed polymer liquid crystal fine particles are important to provide an optical film which can suitably used for antiglare treatment by suppressing blurry image and reduced contrast while exhibiting a sufficient effect on preventing unwanted reflection of external light as shown in the present specification (*See paragraph [0009] as originally filed.*)

### Rejections under 35 USC § 103

The Office Action rejects Claims 9-12 under 35 U.S.C. §103(a) as being unpatentable over Ohnishi *et al.* (US 5,144,464 A, “Ohnishi”) in view of Pirwitz *et al.* (US 5,824,377 A, “Pirwitz”). Applicant respectfully traverses the rejection.

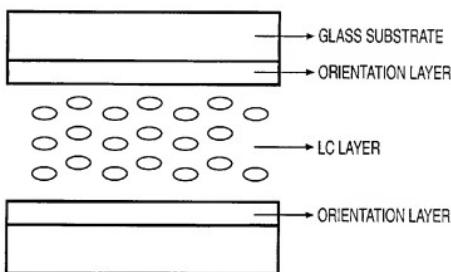
As noted above, the mesogens in the liquid crystal particles according to Claim 9 are configured to be fixed upon application of heat or light or both. On the contrary, the mesogens present in the polymer liquid crystals of Ohnishi are configured not be fixed but freely move. The polymer liquid crystals disclosed in Ohnishi are thermotropic liquid crystals, which show nematic, smectic, or chlesteric phase as a mesophase. That is, the polymer liquid crystal of Ohnishi can reversibly change between polydomein state (light scattering state) and isotropic state (light non-scattering state or transparent state) as disclosed in column 4, second paragraph from the bottom of the reference. This reversible state change can be performed by freedom of the mesogens. As

such, the mesogens in Ohnishi are not fixed and thus no component for fixing or orienting the mesogens (e.g. a cinnamoyl group in Claim 9) is required. Indeed, there is no teaching or suggestion in Ohnishi about the liquid crystal particles comprising a cinnamoyl group.

While the foregoing deficiency of Ohnishi is correctly acknowledged by the Examiner in the Office Action (*See* page 3, lines 16-18 of the Final Office Action), the Examiner further asserted that Pirwitz would remedy this deficiency of Ohnishi. Applicant respectfully disagrees with this assertion for the reasons as discussed below.

Pirwitz teaches a liquid crystal device, which has the following structure:

**Fig. 3 of Pirwitz**



As seen above, the device of Pirwitz comprises a liquid crystal layer, which is surrounded by one or more of orientation layers. The orientation layer may be in contact with the liquid crystal layer, however it is clearly separated from the liquid crystal layer. Pirwitz's device requires this orientation layer in order to orient liquid crystals present in the liquid crystal layer. The orientation layer according to Pirwitz comprises a photosensitive orientation material including polysiloxane and a derivative of a cinnamoyl group. *See* column 3, lines 2-4, lines 8-10, and 19-22 and Claim 1 of Pirwitz, for example. As acknowledged by the Examiner, the Pirwitz reference may disclose a material comprising a cinnamoyl group, however such material is present only in the orientation layer, and not in the liquid crystal (layer). In other words, Pirwitz is completely silent about the concept that a cinnamoyl group can be included in the liquid crystal. Instead, what Pirwitz actually discloses is that an additional component (i.e. the orientation layer) would be required to orient the liquid crystal in the device and such orientation layer may include a cinnamoyl group. In contrast, the present invention clearly teaches that the high polymer liquid

crystal compound can comprise liquid crystal mesogens as well as a cinnamoyl group and such claimed composition would improve the function of an optical film.

As noted above, Ohnishi fails to disclose the liquid crystal comprising a cinnamoyl group. While Pirwitz discloses a cinnamoyl group in a separate orientation layer, Pirwitz fails to disclose the incorporation of a cinnamoyl group as a component of the liquid crystal itself. Thus, even if it were proper to combine Ohnishi and Pirwitz, such combination would still fail to disclose a high polymer liquid crystal compound, which comprises liquid crystal mesogens and a cinnamoyl group, as recited in Claim 9.

Moreover, even if the derivative of a cinnamoyl group of Pirwitz were combined with the polymer liquid crystals of Ohnishi, the derivative of a cinnamoyl group would be fixed, and thus the mesogens would become also fixed. That is, it is impossible to reversibly change states, such as a state change between polydomein state and isotropic state. In other words, the intended effects of Ohnishi could not be obtained by combining it with Pirwitz. As set forth in MPEP 2143.01(V) and 2145(X)(D), a *prima facie* showing of obviousness cannot be maintained where a proposed modification renders the prior art unsatisfactory for its intended purpose. As such, the combination of Ohnishi and Pirwitz would not present a proper *prima facie* showing of obviousness. Accordingly, Applicant respectfully submits that Claim 9 cannot be obvious over the prior art. Reconsideration of Claim 9 is respectfully requested.

As to Claims 10-12, they incorporate all the features of Claim 9 through their dependencies from Claim 9. Therefore, Claims 10-12 are also patentable over the prior art for at least the same reasons that Claim 9 is patentable as well as for their own patentable features. Favorably reconsideration of Claim 10-12 is respectfully requested.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not

reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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By: \_\_\_\_\_ /daniel altman/  
Daniel E. Altman  
Registration No. 34,115  
Attorney of Record  
Customer No. 20995  
(949) 760-0404

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